

# Sophia Chiang

Project Biologist

## Education

M.S., Environmental Science, California State University, Fullerton, 2004

B.S., Environmental Analysis & Design, University of California, Irvine, 1996

## Professional Registrations

Endangered Species Act 10(a)(1)(A) recovery permit (TE-064359-2) for vernal pool branchiopods, Quino checkerspot butterfly, and coastal California gnatcatcher

California Department of Fish and Game Scientific Collecting Permit (SC-004717)

Federal Bird Marking and Salvage Permit (20431-BF), subpermittee

## Distinguishing Qualifications

- Expertise in conducting various surveys for threatened and endangered species
- Expertise in bird identification by sight and sound
- Experience in coordinating and conducting large-scale biological field efforts for transportation, energy, and water projects
- Experience in preparing a variety of environmental compliance documents and reports, including reports specific to transportation and energy projects

## Relevant Experience

Ms. Chiang is a project biologist in the Ecosystems Business Group in CH2M HILL's Southern California office. She has more than 12 years of experience conducting a variety of wildlife surveys throughout Southern California. She conducts focused surveys for coastal California gnatcatcher, least Bell's vireo, Quino checkerspot butterfly, vernal pool branchiopods, and burrowing owl. She has experience with the following field techniques: fixed-point bird use surveys, passive bat survey equipment, radio telemetry, nest monitoring, mist netting, bird banding, raptor trapping and handling, mammal scent stations, mammal track identification, and aerial raptor surveys. Ms. Chiang has prepared a variety of biological resources reports and other environmental documents pursuant to California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), Endangered Species Act (ESA), and Migratory Bird Treaty Act (MBTA).

## Representative Projects

**Avian and Bat Task Lead, Safety Coordinator; Confidential Wind Energy Project; Kern County, California; November 2009 to Present.** Task lead for a 300 MW wind energy project in the southern Tehachapi mountains, in charge of internal coordination with project team members and subconsultants. Established the avian point count and bat survey programs. Conducted fixed-point bird use surveys (1 year), ground-based focused raptor and eagle surveys (seasonal), and intensive migration counts (seasonal). Maintained Anabats (1 year) and assisted with aerial raptor surveys (seasonal). Responsibilities associated with subconsultant management include survey coordination, report review, and initial scoping coordination. Reporting requirements to-date include a Biological Resources Report, Avian and Bat Protection

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Plan, and other agency-specific reports. Reporting will continue throughout the collection of baseline data.

**Avian and Bat Task Lead, Agency and Data Coordination Lead; Confidential Wind Energy Project; Kern County, California; June 2009 to Present.** Task lead for a proposed 300 MW wind energy facility, as well as additional wind and solar development on the same property in the southern Tehachapi mountains. In charge of internal coordination with project team members and subconsultants. Conducted in-depth research into industry-standard survey requirements and technical equipment needed to support the bat surveys. Established the avian point count and bat survey programs. Assisted with aerial raptor surveys (seasonal). Responsibilities associated with subconsultant management include survey coordination, report review, and initial scoping coordination. Ongoing reporting requirements will continue throughout the collection of baseline data.

**Burrowing Owl Survey Task Lead; CE Obsidian Energy Black Rock Units 1-3 and Units 4-9 Application for Certification; Imperial County, California; May 2009 to Present.** Coordinated and lead the focused surveys that included a team of 6 biologists in 2009 and 3 biologists in 2010 in an area (Salton Sea) known for its dense population of burrowing owls. Successfully pulled together a survey team and completed the surveys under extremely tight deadlines. Worked closely with the sub-consultant's junior-level biologists. Lead author for Units 1-3 burrowing owl technical report and assisted with the technical report for Units 4-9.

**Biologist; Palm Avenue Grade Separation Project; San Bernardino County, California; March 2009 to June 2010.** Assisted with the biological reconnaissance survey and special-status species assessment. Helped to determine the threatened and endangered focused survey requirements. One of the authors of the biological resources assessment memo and NES. Provided some subcontractor oversight of the biological and cultural subconsultants.

**Biologist, Alta-Oak Creek Mojave Project, Terra-Gen Power, LLC, Kern County, California. January to March 2010.** Conducted construction monitoring of geotechnical drilling in order to provide protection measures for desert tortoise. Conducted reconnaissance-level field surveys that included vegetation mapping and wildlife habitat assessments for the Alta Infill project and prepared the subsequent technical memo. Helped to prepare the Worker Environmental Awareness Training in support of the construction of a 9000-acre wind farm with 290 turbines.

**San Joaquin Marsh Facility Number 62 (Site 62) and Small Area Mitigation Site 1 (SAMS 1); Orange County, California; April to September 2010.** Conducted baseline biological surveys and assessments for the wetland and riparian restoration located adjacent to the University of California Natural Reserve System (UCNRS). Collected vegetation data to support preliminary design (30% PDR). Helped to develop the plant palettes for the riparian woodland and wetland zones for the 90% PDR. Utilized knowledge of the habitat requirements and preferred nesting habitat for the endangered least Bell's vireo in developing the plant palettes.

**Biologist; Los Angeles River Restoration at DeForest Park Site; California. April 2010.** Conducted preliminary research on southern California vernal pool restoration that helped the project manager develop a suitable plant palette for the vernal pool restoration project for the City of Long Beach and the California Coastal Conservancy. Project involved concept development for stream naturalization; riparian, freshwater wetland, and native scrub

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restoration and creation; public use enhancement; and water treatment and reuse along a 4,800-foot reach of historic floodplain channel.

**Biologist; Vestar; Orange County, California; July 2009.** Assisted the Lead Biologist conduct aquatic sampling in a portion of the University of California, Irvine (UCI) marsh. Samples included water, sediment, and aquatic invertebrates/fish samples from the back portion of the marsh, along San Diego Creek, for selenium speciation and screening of other metals.

**Task Lead and Project Biologist; State Route 79 Realignment Project; Riverside County, California; November 2004 to Present.** Task Lead for the burrowing owl, golden eagle, nesting raptor, riparian bird, amphibian, and sensitive wildlife tasks. Conducted focused surveys for burrowing owl, golden eagle, nesting raptors, least Bell's vireo, and vernal pool branchiopods. Assisted with sensitive amphibian surveys, sensitive plant surveys, wetland delineations, southwestern willow flycatcher surveys, vegetation mapping, and general wildlife assessments for the approximately 15,000-acre project study area located in the Cities of Hemet, San Jacinto, and Winchester. Responsibilities associated with subconsultant management include survey coordination, invoice approval, and contract amendments. Reporting requirements include focused survey reports, Natural Environment Study (NES), Multiple Species Habitat Conservation Plan Equivalency Analysis, and Environmental Impact Report/ Environmental Impact Statement (EIR/EIS).

**Project Biologist; Metropolitan Water District On-call Services; California; March 2007 to January 2009.** Project biologist for various projects within the Metropolitan Water District (MWD) jurisdiction. Rainbow Creek: Prepared a preconstruction survey memorandum, conducted a preconstruction survey, coordinated and conducted biological monitoring, and prepared a monitoring results memorandum on very short notice for the emergency pipeline repair. Perris Valley Pipeline: Conducted the initial biological survey, prepared the technical memorandum, and flagged sensitive resources and vernal pool boundaries prior to construction. Perris Bypass Pipeline Excavation: Conducted the initial biological survey and prepared the technical memorandum for the pipeline repair. Also conducted some construction monitoring for Stephens' kangaroo rat adjacent to Skunk Hollow Preserve.

**Project Biologist; Chiquita Canyon Landfill Master Plan Revision; Los Angeles County, California; December 2004 to 2008.** Conducted vegetation compliance monitoring pursuant to the revegetation and erosion control program of the landfill. Success monitoring included quantitative data collection via the line-intersect method and qualitative data collection via visual inspection. Photo locations were established to photo-document revegetation progress and site changes. Prepared technical memoranda and assisted with the EIR update.

**Project Biologist; City of Las Vegas Annual Channel Maintenance; Clark County, Nevada; June 2006 to Present.** Conducted a preconstruction bird survey of the Rancho Detention Basin and a 3-mile section of the Las Vegas Wash. Both areas were surveyed to determine the presence of migratory bird habitat and utilization levels of habitat by migratory birds prior to channel clearing activities. Prepared a technical memorandum following data collection.

**Project Biologist; Lompoc Wind Energy Project Environmental Impact Report; Lompoc, Santa Barbara County; California; September 2006 to September 2007.** Conducted avian point counts, with a focus on wintering raptors. Prepared a technical report of findings and supported the preparation of the EIR for the development of a 120-megawatt (MW) wind energy electrical

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generation project on private ranch land in the Lompoc Valley. Public Draft released in July 2007; commercial operation expected in 2008.

**Project Biologist; Utah to Las Vegas, Nevada, Pipeline, Holly Energy; Utah and Nevada; April to August 2007.** Collected biological data in support of the 404 permit and general environmental permitting requirements for the interstate pipeline project. Fieldwork included general wetland delineations and habitat surveys.

**Biological Task Lead; Chula Vista Energy Upgrade Project; MMC Energy; San Diego County, California; June to October 2007.** Biological Task Lead for preparation of the Biology Section of an Application for Certification (AFC) for an energy-efficiency upgrade within the existing MMC Chula Vista Energy power station. Responsible for evaluating biological impacts pursuant to environmental regulations on city, county, state, and federal levels. The AFC was submitted to the California Energy Commission (CEC) in August 2007 and was certified in December 2007. Provided supporting information during the CEC approval and testimony process.

**Project Biologist; Hill Canyon Mitigation Bank; Ventura County, California; July 2007 to Present.** Assisted with mitigation and restoration monitoring pursuant to the habitat management plan. Project includes habitat restoration along 2.5 miles of the Arroyo Conejo, including 7 acres of off-channel emergent wetland creation. Success monitoring included quantitative data collection via the line-intersect method and qualitative data collection via visual inspection. General wildlife and avian surveys were also conducted. Assisted with resource agency coordination in support of bank establishment. Wetland creation project won the American Public Works Association Ventura County Chapter Environmental Project of the Year award in 2004.

**Project Biologist; Bright Source Energy, Inc.; Ivanpah Solar Energy Generating Station; Eastern San Bernardino County, California, to Clark County, Nevada; August to September 2007.** Assisted with rare plant surveys and habitat characterization within an approximately 3,400-acre site located in the eastern Mojave Desert, near the Nevada border, to the west of Ivanpah Dry Lake. Rare plant surveys focused on the following species: *Coryphantha chlorantha*, *Cynanchum utahense*, *Echinocactus polycephalus* var. *polycephalus*, *Ferocactus cylindraceus* var. *lecontei*, and *Opuntia parishii*. Fieldwork was conducted in support of a 400-MW solar energy power generation facility using heliostat fields to focus solar energy on power tower receivers.

**Biological Task Lead; NRG Carlsbad Energy Center; City of Carlsbad; San Diego County, California; August 2007 to Present.** Biological Task Lead for preparation of the Biology Section of an AFC for a 560-MW, combined-cycle project within the existing Cabrillo Energy Center power station located adjacent to Agua Hedionda. Responsible for evaluating biological impacts pursuant to environmental regulations on city, county, state, and federal levels. The AFC was filed in September 2007 and found data adequate by CEC staff in November 2007. Contacted resource agencies on behalf of the project during the coastal development permit process. The license from the California Energy Commission is expected to be granted in mid-June 2011.

**Project Biologist; State Route 15 Mid-City Transit Project; California Department of Transportation District 11 and San Diego Association of Governments; San Diego, California; October 2008.** Project biologist for the environmental analysis and documentation

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for the proposed bus rapid transit (BRT) stations in Mid-City San Diego, along State Route (SR)-15, between Interstate (I)-8 and I-805. The addition of the new transit stations complement the overall I-15 BRT system and addresses the need for a regional network to provide priority service to the buses and a quicker ride to transit patrons during rush hours. Conducted fieldwork and prepared the biological technical memorandum in support of the Preliminary Environmental Assessment Report (PEAR) and the NES, Minimal Impact Form which was approved by Caltrans in July 2010 with minimal comments.

**Biologist; Interstate 805 Transit Lane Demonstration; California Department of Transportation District 11 and San Diego Association of Governments; San Diego, California; October 2008.** Provided comments on the biological technical memorandum in support of a Categorical Exemption for the proposed extension of BRT lanes along 20.9 miles of the I-805 corridor in both the northbound and southbound directions. The I-805 Transit Lane project will utilize the latest vehicle automated assistance technology, allowing the buses to operate on a 10-foot lane using longitudinal and lateral control sensors.

**Biologist; State Route 94 High Occupancy Vehicle Project; California Department of Transportation District 11 and San Diego Association of Governments; San Diego California; December 2007.** Provided comments on the biological technical memorandum in support of the California Department of Transportation (Caltrans) District 11 and San Diego Association of Governments (SANDAG) project to construct two high occupancy vehicle (HOV) lanes on the SR-94 highway segment from downtown San Diego to the I-805 intersection.

**Project Biologist; State Route 126 Phase II Improvements; Los Angeles County, California; December 2007 to April 2008.** Project biologist for the environmental analysis and documentation for the proposed improvements along SR-126 located in Santa Clarita. Conducted fieldwork and prepared the biological technical memorandum in support of the PEAR.

**Team Member/Wildlife Biologist; Blundell 3 Geothermal Facility; Beaver County, Utah; April to May 2008.** Part of the team that conducted wildlife surveys for kit fox and burrowing owl in support of the geothermal facility expansion. Also conducted aerial raptor surveys within the project site.

**Team Member/Wildlife Biologist; UPC Milford Wind Project; Beaver and Millard Counties, Utah; April 2008 to Present.** Part of the team that conducted wildlife surveys for kit fox and burrowing owl in support of the Plan of Development and Environmental Assessment (EA) for the Phase I, 300-megawatt (MW) wind farm and 90-mile, 345-kilovolt (kV) transmission line. Conducted aerial nesting raptor surveys and ground-level eagle surveys for Phase III of the wind farm site, and helped to establish avian point count stations for subsequent point count surveys.

**Project Biologist; Union Pacific Railroad; San Timoteo, California; March to May 2008.** Conducted preconstruction least Bell's vireo surveys in San Timoteo Creek, a significant riparian system known to support least Bell's vireo and southwestern willow flycatcher. Site closure for the derailment involved installation of groundwater monitoring wells and the timing of the construction activities was close to the beginning of breeding season. Completed Union Pacific contractor safety training prior to beginning field work.

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**Project Biologist; Monitoring Well 40; Los Angeles County Sanitation District; Palmdale, California; March to April 2008.** Conducted the biological field survey and prepared the technical memorandum in support of the installation of monitoring wells in the vicinity of the Los Angeles County Sanitation District (LACSD) Palmdale Water Reclamation Plant (PWRP). The memo addressed threatened and endangered plant and animal species, nesting birds, and potential waters of the United States.

## Specialized Training

Western Mountains and Their Birds - Sea and Sage Audubon Society, 2011

Learning More California Bird Sounds - Sea and Sage Audubon Society, 2009

Plants of Orange County - Santa Ana College, 2008

Sparrow Identification - Sea and Sage Audubon Society, 2007

Shorebird Identification - Sea and Sage Audubon Society, 2005

Warbler Identification - Sea and Sage Audubon Society, 2003

Sensitive Reptiles and Amphibians of Southern California - The Wildlife Society, 2003

San Diego County Sensitive Butterfly Workshop - Nature Festivals of San Diego, 2003

Reptiles & Amphibians of Joshua Tree National Park - UC Riverside Extension, 2000

Surveying, Monitoring, & Handling Techniques - Desert Tortoise Council, 1999

Desert Bird Identification - Sea and Sage Audubon Society, 1998

Wetland Delineations Training - Wetland Training Institute, 1998

Endangered Species Act & Habitat Conservation Planning Conference - CLE Int'l, 1998

Basic Tracking and Wilderness Awareness Training - Earth Skills, 1998

ArcView 9.2 & 3.2

CALHOME 1.0

## Publications and Presentations

Chiang, S.N., P.H. Bloom, A.M. Bartuszevige, and S.E. Thomas. In press. Home range and habitat use of Cooper's hawks in urban and natural areas of Orange County, California. *Studies in Avian Biology*.

*Charadrius alexandrinus* population surveys at Owens Dry Lake, Inyo County California. Presented at the Southern California Academy of Sciences Annual Meeting on behalf of Gretchen Honan/CH2M HILL, Fullerton, California. June 2007.

Urban Bird Ecology Symposium: Home range and habitat use of Cooper's hawks in urban and natural areas of southern California. Presented at the IV North American Ornithological Conference, Veracruz, Mexico. October 2006.

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Chiang, S.N. 2004. Home range and habitat use of Cooper's hawks in urban and natural areas of southern California. Masters Thesis, California State University, Fullerton.

## Supplemental Information

Years Experience Prior to CH2M HILL: 7

CH2M HILL Hire Date: 12/13/2004

*Last Employee Update: 06/9/2011*

## Last Updated

May 14, 2009